CALS TEST NETWORK

AFCTN Test Report 94-007

AFCTB-ID 93-055

Technical Publication Transfer

Using:

Northrop Corporation's Data

MIL-D-28000A (IGES)
MIL-M-28001A (SGML)
MIL-R-28002A (Raster)
MIL-D-28003 (CGM)

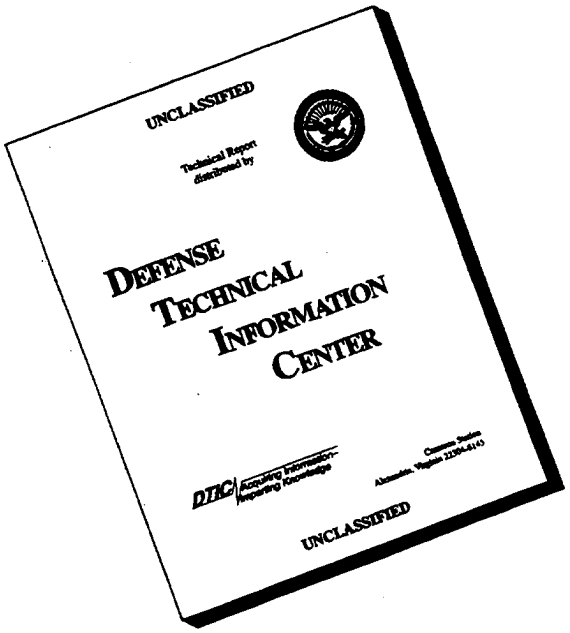
Quick Short Test Report

03 June 1993

Prepared for

Electronic Systems Center

DISCLAIMER NOTICE



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Quick Short Test Report

03 June 1993

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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Northrop Corporation's interpretation and use of the CALS standards, in transferring technical publication data. Northrop used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 93-055

Date of Evaluation: 3 June 1993

Evaluator:
George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/ENCP
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator:
John P Kent
Northrop Corporation
B-2 Division, M/S L591/UB
8900 East Washington Blvd
Pico Rivera CA 90660
(310) 942-3030

Data Description:
Technical Manual Test
- 3 Document Declaration files
- 3 Document Type Definition (DTD)
- 4 Initial Graphics Exchange Standard (IGES) files
- 3 Text files
- 1 Raster file
- 5 Computer Graphics Metafile (CGM) files

Data Source System:

1840

HARDWARE

Unknown

SOFTWARE

Unknown

IGES

HARDWARE

Unknown

SOFTWARE

Unknown

Text/Standard Generalized Markup Language (SGML)

HARDWARE

Unknown

SOFTWARE

Unknown

Raster

HARDWARE

Unknown

SOFTWARE

Unknown

CGM

HARDWARE

Unknown

SOFTWARE

Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN *Tapetool v1.2.8 UNIX*
XSoft *CAPS/CALS v40.4*
Texas Instruments (TI) *Tapetool v1.0.1*

PC 486/50

AFCTN *Tapetool v1.2.9 DOS*

MIL-D-28000 (IGES)

Sun SparcStation 2

ArborText *iges2draw*
Carberry *CADLeaf Plus v3.1*
IGES Data Analysis (IDA) *Parser/Verifier v92*
IDA *IGESView v3.05*
International TechneGroup Incorporated (ITI) *IGES/Works v1.3*
Rosetta Technologies *Preview v3.2*

PC 486/50

AUTODESK *AutoCAD 386 R12*
AUTODESK Micro Engineering Solutions (MES) *CheckMark v1.0*
Cadkey *Cadkey v5.02*
IDA *IGESView Windows*

MIL-M-28001 (SGML)

PC 486/50

- Datalogics *ParserStation v3.36*
- Exoterica *XGMLNormalizer v1.2e3.2*
- Exoterica *Validator v2.0 ex1*
- McAfee & McAdam *Sema Mark-it v2.3*
- Public Domain *sgmls*

MIL-R-28002 (Raster)

SUN SparcStation 2

- ArborText *g42tiff*
- Carberry *CADLeaf Plus v3.1*
- AFCTN *validg4*
- AFCTN *calstb.475*
- IDA *IGESView v3.0*
- Island Graphics *IslandPaint v3.0*

PC 486/50

- IDA *IGESView Windows*
- Inset Systems *HiJaak v2.1*
- Inset Systems *HiJaak Window v1.0*
- Corel *Ventura Publisher*

MIL-D-28003 (CGM)

SUN SparcStation 2

- ArborText *cgm2draw*
- Island Graphics *IslandDraw v3.0*
- Carberry *CADLeaf Plus v3.1*

PC 486/50

- Software Publishing Corporation (SPC) *Harvard Graphics v3.05*
- Inset Systems *HiJaak v2.1*
- Inset Systems *HiJaak v1.0 Windows*
- Micrografx *Designer v3.1*
- Micrografx *Charisma v2.1*
- Corel *Ventura Publisher*

Standards Tested:

- MIL-STD-1840A
- MIL-D-28000A
- MIL-M-28001A
- MIL-R-28002A
- MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was marked with a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool v1.2.9* utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using XSoft's *CAPS read1840A* utility without any reported errors. The tape was read using TI's *Tapetool v1.0.1*.

The physical structure of the tape meets the CALS MIL-STD-1840A requirements.

3.2.2 Declaration and Header Fields

No errors were reported in the Document Declaration file and data file headers.

This portion of the tape meets the CALS MIL-STD-1840A requirements.

4. IGES Analysis

The tape contained four IGES files. These files were evaluated using IDA's *parser* and *verifier* set for CALS Class I. This utility reported that all files meet the CALS MIL-D-28000A specification. Some warnings were generate on basic IGES entities.

The AFCTB has several tools for viewing IGES files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The files were converted using ArborText's *iges2draw* utility with no reported errors. The resulting files were read into Island Graphics' *IslandDraw* and displayed. The images were partly displayed on the left side of the screen. A switch had to be set in order to display the files correctly. The error was trace of a negative X value for the start point of the files.

The files were read using AUTODESK's *AutoCAD R12* with translator version 5.1. The resulting files were displayed and no problems were noted.

The files were converted using Cadkey's *ig2c* utility. The resulting files were read into *Cadkey*, displayed and printed. Some errors were noted in file D002Q006 in the B-splines, which Cadkey does not support.

The files were read into Carberry's *CADLeaf* software without a reported error. File D002Q006 displayed with one set of letters incorrect. The letters should have been aligned vertically when in fact they displayed horizontally.

The files were read using IDA's *IGESView* and *IGESView for Windows*. No problems were noted.

The IGES files were converted using Rosetta Technologies' *Prepare* without a reported error. The resulting files were read into *Preview* and displayed.

The IGES files meet the CALS MIL-D-28000A specification.

5. SGML Analysis

The tape contained three DTD and Text files. The DTD files were found to be the same except for the graphic references. All of these references were placed in one DTD which was used for all parsing operations.

The AFCTB has several parsers available for evaluating submitted DTD and Text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or Text files required by each system are not documented in the report.

The Text and DTD files from the tape were evaluated using Datalogics' *ParseStation* with no reported errors.

The Text and DTD files from this document were evaluated using the Exoterica *Validator exl* parser with no reported errors and some warnings. See the Appendix for the log.

The Text and DTD files from this document were tested using Exoterica's *XGMLNormalizer* parser with no reported errors.

The Text and DTD files from the tape were evaluated using McAfee & McAdam's *Sema Mark-it* parser with no reported errors.

The Text and DTD files from the tape were evaluated using the Public Domain *sgmls* parser with no reported errors.

The SGML files on this tape meet the CALS MIL-D-28001A specification.

6. Raster Analysis

The tape contained one Raster file. This file was evaluated using the AFCTN *validg4* utility. This program reported that the file met the CALS MIL-R-28002A specifications.

The file was read into the AFCTN *calstb.475* viewing utility. No problems were noted.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The file was converted using ArborText's *g42tiff* utility without a reported error. The resulting file was read into Island Graphics' *IslandPaint* and displayed.

The Raster file was read into Carberry's *CADLeaf* software without a reported error. The image was displayed and printed.

The file was read into IDA's *IGESView* and *IGESView for Windows* without a reported error.

The file was read into Inset Systems' *HiJaak for Windows* without a reported error.

The file was converted using Inset Systems' *HiJaak for DOS* into an IMG format without a reported error. The resulting file was read into Corel's *Ventura Publisher*, displayed and printed.

The Raster file was converted using Rosetta Technologies' *Prepare* without a reported error. The resulting file was read into *Preview* and displayed.

The Raster file meets the CALS MIL-R-28002A specification.

7. CGM Analysis

The tape contained five CGM files. The files were evaluated using a software available within the AFCTB with CALS options. This utility reported that all five files meet the CALS MIL-D-28002A specification.

The CGM files were evaluated using the beta AFCTN *validcgm* utility with some reported errors.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor and indication of CALS capability. All operations were performed using the default settings.

The CGM files were converted using ArborText's *cgm2draw* utility without a reported error. The resulting files were read into Island Graphics' *IslandDraw* and displayed. Text overflow was noted on file D001C004.

The files were viewed using a software available within the AFCTB. The files containing text had reported errors, and font problems were visible on the screen.

The files were read into Carberry's *CADLeaf* software and displayed. File D001C004 had some text overflow noted. File D001C007 had defined line thickness noted. Images were displayed in color.

An attempt to read the files into Inset Systems' *HiJaak for Windows* did not succeed. The software reported a general system fault and dropped back one level.

The files were imported directly into Island Graphics' *IslandDraw* without a reported error. File D001C004 had text overflow noted and the elliptical arc, both open and closed, were noted as being in error.

An attempt to imported into the Micrografx *Designer* resulted in no error messages but nothing displayed.

According to Michael Harrison of Micrografx, "Micrografx is aware of the problems associated with reading these files and is working on a solution to be implemented in a future release of our products."

The files were imported into SPC's *Harvard Graphics 3.05* with all files except D001C008 reporting errors. The errors were line style, adjustment of points, non-CGM entities, and not translated entities. Non of the imported images were usable.

An attempt to imported the files into Corel's *Ventura Publisher* failed for files D001C004 and D001C008. These files were reported as being in an incorrect format. The three files that did import were not usable.

The CGM files were reported as meeting the CALS MIL-D-28003 specification, but the commercial software available in the AFCTB could not display any of the file correctly.

8. Conclusions and Recommendations

The physical tape structure and data requirements meet the CALS MIL-STD-1840A requirements.

The IGES files on the tape meet the CALS MIL-D-28000A specification for Class I files.

The SGML files on the tape meet the CALS MIL-M-28001A specification.

The Raster file on the tape meets the CALS MIL-R-28002A specification.

The CGM files on the tape meet the CALS MIL-D-28003 specification. However, the files could not be displayed correctly on any commercial software available in the AFCTB.

The tape meets the CALS MIL-STD-1840A requirements as defined above.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

```
Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release 9 (0)
  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Wed Jun  2 13:58:01 1993
MIL-STD-1840A File Catalog
File Set Directory: /cals/u129/Set009
```

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D003	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000001	Extracted
D001G002	DTD	D/00260	02048/000034	Extracted
D001H003	Output Specification	D/00260	02048/000001	Extracted
D001C004	CGM	F/00080	00800/000006	Extracted
D001C005	CGM	F/00080	00800/000002	Extracted
D001C006	CGM	F/00080	00800/000002	Extracted
D001C007	CGM	F/00080	00800/000002	Extracted
D001C008	CGM	F/00080	00800/000002	Extracted
D002T001	Text	D/00260	02048/000001	Extracted
D002G002	DTD	D/00260	02048/000034	Extracted
D002H003	Output Specification	D/00260	02048/000001	Extracted
D002Q004	IGES	F/00080	02000/000012	Extracted
D002Q005	IGES	F/00080	02000/000573	Extracted
D002Q006	IGES	F/00080	02000/000033	Extracted
D002Q007	IGES	F/00080	02000/000042	Extracted
D003T001	Text	D/00260	02048/000001	Extracted
D003G002	DTD	D/00260	02048/000034	Extracted
D003H003	Output Specification	D/00260	02048/000001	Extracted
D003R004	Raster	F/00128	02048/000007	Extracted

```
Catalog Process terminated normally.
```

9.2 Tape Evaluation Log

```
Air Force CALS Test Network Tape Evaluation - Version 1.2; Release 9 (0)
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Wed Jun  2 13:57:17 1993

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01                CONTROLLER                                        4

  Label Identifier: VOL1
  Volume Identifier: ITDS01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001            ITDS0100010001000100 93145 93145 000000  CONTROLLER

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93145
  Expiration Date:  93145
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:   CONTROLLER

HDR2D0204800260                                  00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00
```

```
************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 1.

************ Tape Mark ***************

EOF1D001            ITDS0100010001000100 93145 93145 000001  CONTROLLER

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93145
  Expiration Date:  93145
  File Accessibility:
  Block Count: 000001
  Implementation Identifier:   CONTROLLER

EOF2D0204800260                                    00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

************ Tape Mark ***************

                    <<<<< PART OF LOG REMOVED HERE >>>>>

************ Tape Mark ***************

************ Tape Mark ***************

############ End of Volume ITDS01 ###############

############ End Of Tape File Set ###############

Deallocating /dev/rmt0...

Tape Import Process terminated normally.
```

9.3 Tape File Set Validation Log

```
Air Force CALS Test Network File Set Evaluation - Version 1.2; Release 9 (O)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Wed Jun  2 13:58:01 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set009

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division, L591/GK
E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: CALS_CGM_TEST2
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930126
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.7
dstrelid: NONE
dtetrn: 19930525
dlvacc: NONE
filcnt: T1, H1, G1, C5
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: JOB GUIDE
docttl: graphics test
```

<<<<< *PART OF LOG REMOVED HERE* >>>>>

```
Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.
```

Found file: D002
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division, L591/GK E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: CALS_IGES_TEST2
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930126
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT, TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.9
dstrelid: NONE
dtetrn: 19930525
dlvacc: NONE
filcnt: T1, H1, G1, Q4
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: JOB GUIDE
docttl: graphics test

<<<<< *PART OF LOG REMOVED HERE* >>>>>

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D002.

Found file: D003
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division, L591/GK E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: CALS_RAS_TEST2
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930126
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT, TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601

dstdocid: STPRO25.11
dstrelid: NONE
dtetrn: 19930525
dlvacc: NONE
filcnt: T1, H1, G1, R1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: JOB GUIDE
docttl: graphics test

<<<<< *PART OF LOG REMOVED HERE* >>>>>

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D003.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - Detailed IGES Analysis

10.1 File D002Q004

10.1.1 Parser/Verifier Log

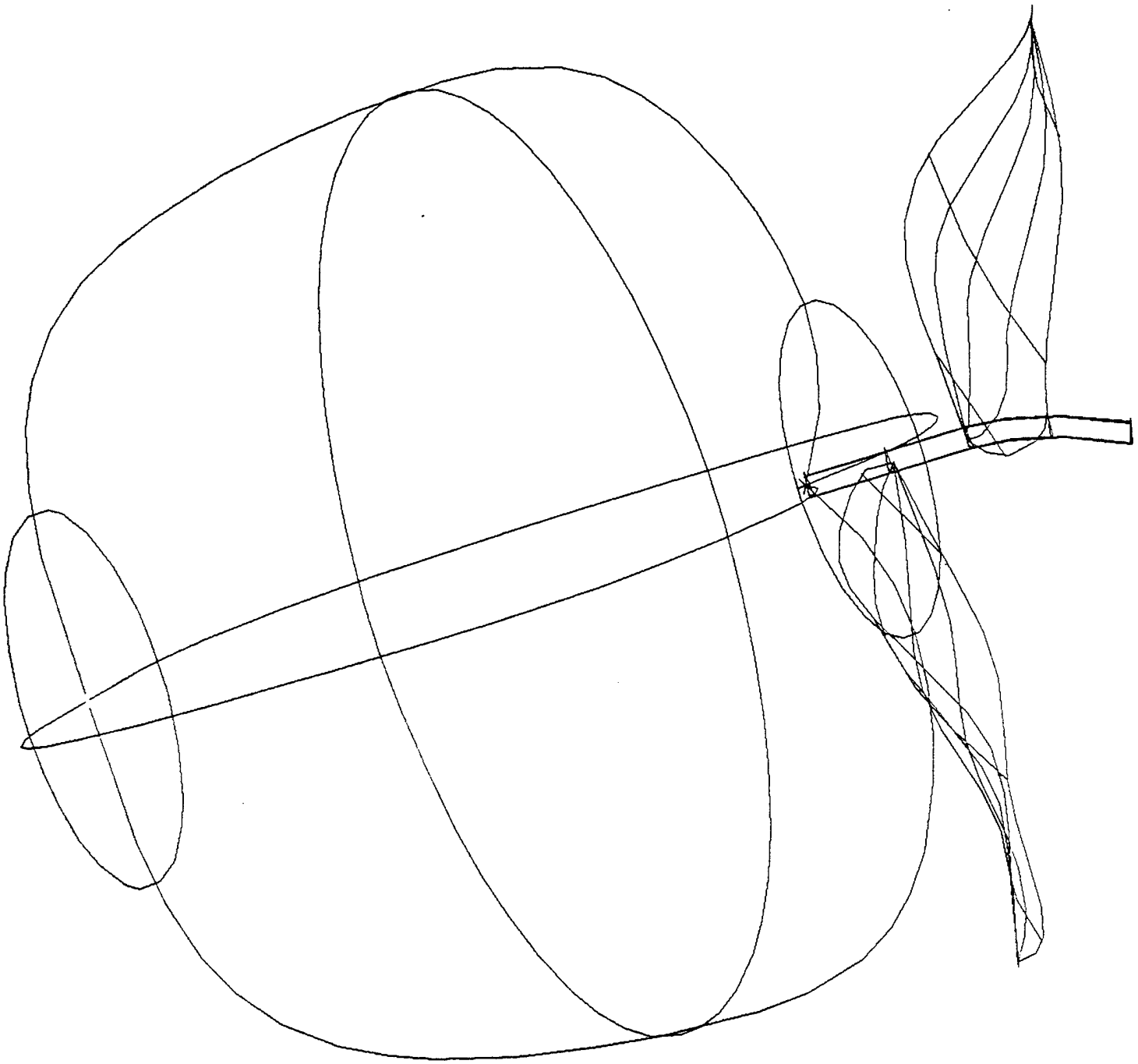
```
          *** IGES DATA FILE ANALYSIS ***
          ***       MARCH 1992       ***
          ***   IGES Data Analysis   ***
          ***     (708) 449-3430     ***

 Input file is /novell/9355/q204.igs

 Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

 Today is June 3, 1993  8:17 AM

*** File and Product Name Information ***

   File name from sender     = 'apple2d.igs'
   File creation Date.Time   = '930524.103711'
   Model change Date.Time    = ''
   Author                    = 'tom'
   Department                = 'GRAPHICS'
   Product name from sender  = 'apple2d.igs'
   Destination product name  = 'apple2d.igs'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID              = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version   = '1.0'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***
```

```
   Model scale            =  1.0000E+00
   Unit flag              =  1
   Units                  =  'IN'
   Line weights           =  3
   Maximum line thickness =  1.000000E-02
   Minimum line thickness =  3.333333E-03
   Granularity            =  1.000000E-03
   Maximum coordinate     =  2.954101E+00

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

 Blank status: Visible                      41
               Blanked                       0

 Independence: Independent                  39
               Physically Subordinate        0
               Logically Subordinate         2
               Totally Subordinate           0

 Entity use:   Geometry                     39
               Annotation                    2
               Definition                    0
               Other                         0
               Logical/Positional            0
               2D parametric                 0
               Not Specified                 0

 Hierarchy:    Structure DE applies          0
               Subordinate DE applies       41
               Hierarchy property applies    0
               Not Specified                 0

*** Entity Occurrence Counts ***

 Entity   Form   Level    Count    Type
 ------   ----   -----    -----    ----

   106      11       0       24    Copious data - Piecewise planar, linear string(2D
   path)
   106      63       0        8    Simple closed planar curve
   110       0       0        6    Line
   404       0       0        1    Drawing
   406      16       0        1    Property - Drawing size
   410       0       0        1    View - Orthographic parallel
```

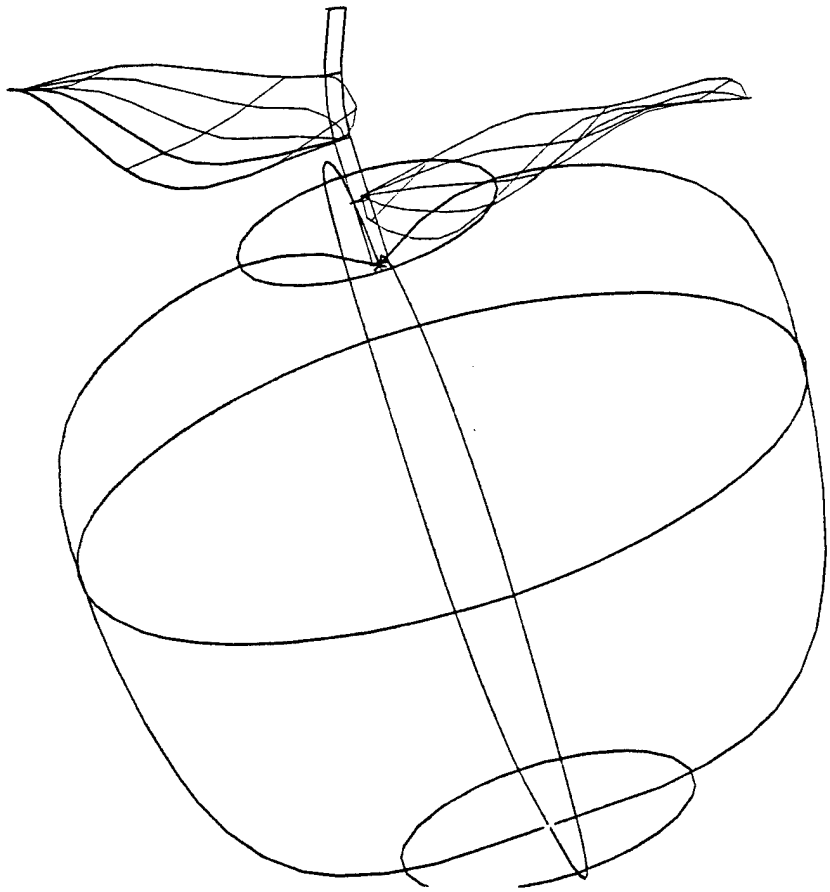
```
*** Entity Count by Level ***

   Level  Count
       0     41

*** Labeling Information ***

   0% of the entities are labeled.

   Unlabeled      41

*** Line Fonts Used in Data ***

100  102  104  106  108  110  112  114

 -    -    -    -    -    -    -    -  Undefined -    -    -    32   -    6   -
 Solid -    -    -    -    -    -    -    -  Dashed -    -    -    -    -    -    -
 Phantom -    -    -    -    -    -    -    -  Center-line -    -    -    -    -
 -   Dotted -    -    -    -    -    -    -    -  User defined

                    <<<<< PART OF LOG REMOVED HERE >>>>>

*** Line Widths Used in Data ***

    Weight       Count      Width

 Defaulted        31       (0.0033)
      2           10       (0.0067)

*** Colors Used in Data ***

 Defaulted         3
       Red         8
     Green        30

********************************
******  ENTITY ANALYSIS  ******
********************************

*** Entity type: 106

*** Entity type: 110

 --      6 lines averaging 1.362447E-01 units --

*** Entity type: 404
```

```
Drawing at D      5 contains 1 views.
Drawing at D      5 contains 0 annotation entities.

 *** Entity type: 406

 *** Entity type: 410

  Scale of view at D      1 is 1.000000E+00.
Orthographic View entity at D      1 has  0 clipping planes specified.
   XMIN = Not Set       XMAX = Not Set
   YMIN = Not Set       YMAX = Not Set
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

 *** Error Summary ***

     0 fatal errors
     0 severe errors
     0 errors
     0 warnings
     0 cautions
     0 nitpicks
     0 notes

 *** End of Analysis of /novell/9355/q204.igs ***
```

10.1.2 Output Cadkey v5.02



10.1.3 Output IGESView



10.2 File D002Q005

10.2.1 Parser/Verifier Log

```
          *** IGES DATA FILE ANALYSIS ***
          ***       MARCH 1992       ***
          ***   IGES Data Analysis   ***
          ***     (708) 449-3430     ***

 Input file is /novell/9355/q205.igs

 Checking conformance to CALS Class I (MIL-D-28000A 2/10/92) .

 Today is June 3, 1993  8:17 AM

*** File and Product Name Information ***

   File name from sender    = 'classic2d.igs'
   File creation Date.Time  = '930524.103727'
   Model change Date.Time   = ''
   Author                   = 'Boardhead'
   Department               = 'WINDY'
   Product name from sender = 'classic2d.igs'
   Destination product name = 'classic2d.igs'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID              = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version   = '1.0'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***

   Model scale            =  1.0000E+00
   Unit flag              =  2
```

```
   Units                    =  'MM'
   Line weights             =  3
   Maximum line thickness   =  1.000000E+00
   Minimum line thickness   =  3.333333E-01
   Granularity              =  1.000000E-03
   Maximum coordinate       =  8.782127E+02

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

 Blank status:  Visible                      2988
                Blanked                        0

 Independence:  Independent                  2986
                Physically Subordinate         0
                Logically Subordinate          2
                Totally Subordinate            0

 Entity use:    Geometry                     2518
                Annotation                    470
                Definition                      0
                Other                           0
                Logical/Positional              0
                2D parametric                   0
                Not Specified                   0

 Hierarchy:     Structure DE applies            0
                Subordinate DE applies       2988
                Hierarchy property applies      0
                Not Specified                   0

*** Entity Occurrence Counts ***

 Entity   Form   Level    Count    Type
 ------   ----   -----    -----    ----

   100       0       0      242    Circular arc
   104       1       0       15    Conic arc - ellipse
   106      11       0      123    Copious data - Piecewise planar, linear string(2D -
   path)
   106      63       0       82    Simple closed planar curve
   110       0       0     2024    Line
   112       0       0       16    Parametric spline curve
   124       0       0       15    Transformation matrix
   212       0       0      468    General note
   404       0       0        1    Drawing
```

```
   406      16       0       1     Property - Drawing size
   410       0       0       1     View - Orthographic parallel

*** Entity Count by Level ***

   Level  Count
       0   2988

*** Labeling Information ***

   0% of the entities are labeled.

   Unlabeled    2988

*** Line Fonts Used in Data ***

100  102  104  106  108  110  112  114

 -    -    -    -    -    -    -    -   Undefined
237   -   15  205    -  1765   16    -   Solid
  4   -    -    -    -    97    -    -   Dashed
  1   -    -    -    -   145    -    -   Phantom
 -    -    -    -    -    17    -    -   Center-line
 -    -    -    -    -    -     -    -   Dotted
 -    -    -    -    -    -     -    -   User defined

116  118  120  122  124  125  126  128

 -    -    -    -   15    -    -    -   Undefined
 -    -    -    -    -    -    -    -   Solid
 -    -    -    -    -    -    -    -   Dashed
 -    -    -    -    -    -    -    -   Phantom
```

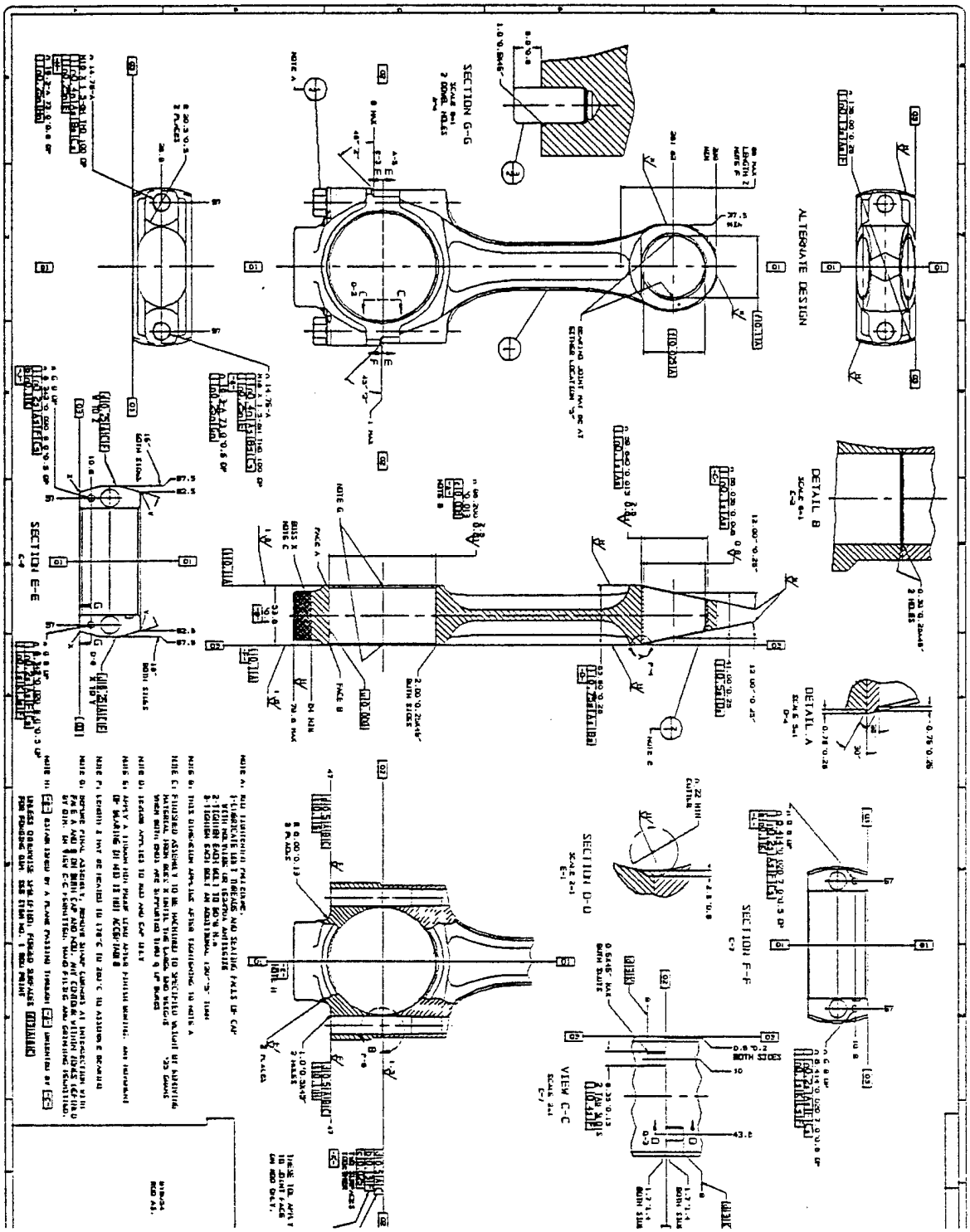
<<<<< *PART OF LOG REMOVED HERE* >>>>>

```
*** Line Widths Used in Data ***

    Weight      Count     Width

 Defaulted     2988      (0.3333)

*** Colors Used in Data ***

 Defaulted       18
       Red      965
     Green        8
      Blue      106
```

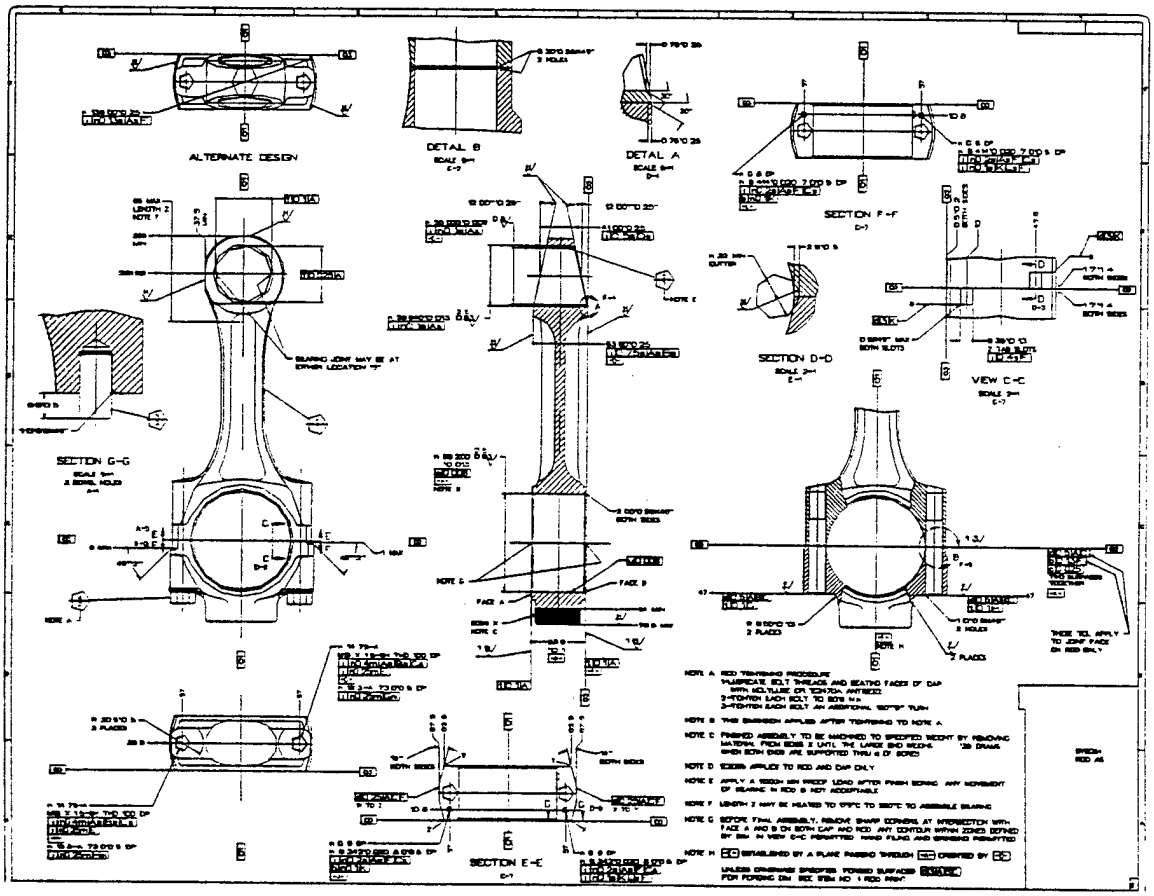
```
     Yellow     1765
    Magenta       65
      White       61

 ********************************
 ******  ENTITY ANALYSIS  ******
 ********************************

 *** Entity type: 100


 *** Entity type: 104

WARNING 2265: Start point off conic by 8.961375E-03 at D    381.
WARNING 2039: End point off conic by 2.300953E-02 at D    381.

                    <<<<< PART OF LOG REMOVED HERE >>>>>

 *** Entity type: 106

 *** Entity type: 110

  --  2024 lines averaging 1.694140E+01 units --

 *** Entity type: 112

 *** Entity type: 124

15 transformation matrices, 15 non-zero translations.
NOTE    2341: 15 matrices contain translation information.

 *** Entity type: 212

       468 text strings in data file.
       Average text aspect ratio in file is 1.0159167.
       Minimum text aspect ratio in file is 0.7623555.
       Maximum text aspect ratio in file is 1.1000000.

       FONTS USED IN FILE

       FONT   COUNT   NAME

          1     468   Default ASCII Style

 *** Entity type: 404

Drawing at D      5 contains 1 views.
```

```
Drawing at D      5 contains 0 annotation entities.

 *** Entity type: 406

 *** Entity type: 410

  Scale of view at D      1 is 1.000000E+00.
Orthographic View entity at D      1 has  0 clipping planes specified.
   XMIN = Not Set       XMAX = Not Set
   YMIN = Not Set       YMAX = Not Set
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

2015: 18 Mathematically incorrect definitions.

 *** Error Summary ***

     0 fatal errors
     0 severe errors
     0 errors
    18 warnings
     0 cautions
     0 nitpicks
     1 notes

 *** End of Analysis of /novell/9355/q205.igs ***
```

10.2.2 Output Cadkey v5.02



10.2.3 Output IGESView



10.3 File D002Q006

10.3.1 Parser/Verifier Log

```
          *** IGES DATA FILE ANALYSIS ***
          ***       MARCH 1992       ***
          ***   IGES Data Analysis   ***
          ***     (708) 449-3430     ***

 Input file is /novell/9355/q206.igs

 Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

 Today is June 3, 1993  8:17 AM

*** File and Product Name Information ***

   File name from sender     = 'ientity.igs'
   File creation Date.Time   = '930524.103736'
   Model change Date.Time    = ''
   Author                    = 'KASSEL'
   Department                = 'Air Force CALS Test Network'
   Product name from sender  = 'ientity.igs'
   Destination product name  = 'ientity.igs'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID              = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version   = '1.0'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***

   Model scale            =  1.0000E+00
   Unit flag              =  1
```

```
   Units                    =  'IN'
   Line weights             =  8
   Maximum line thickness   =  1.600000E-02
   Minimum line thickness   =  2.000000E-03
   Granularity              =  1.000000E-03
   Maximum coordinate       =  1.690002E+01

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

 Blank status:  Visible                      200
                Blanked                       0

 Independence:  Independent                  185
                Physically Subordinate        12
                Logically Subordinate          3
                Totally Subordinate            0

 Entity use:    Geometry                       67
                Annotation                    132
                Definition                      1
                Other                           0
                Logical/Positional              0
                2D parametric                   0
                Not Specified                   0

 Hierarchy:     Structure DE applies            0
                Subordinate DE applies        200
                Hierarchy property applies      0
                Not Specified                   0

*** Entity Occurrence Counts ***

 Entity   Form   Level    Count    Type
 ------   ----   -----    -----    ----

   100       0       0        3    Circular arc
   102       0       0        1    Composite curve
   104       1       0        2    Conic arc - ellipse
   104       2       0        1    Conic arc - hyperbola
   104       3       0        1    Conic arc - parabola
   106      11       0        1    Copious data - Piecewise planar, linear string(2D
   path)
   106      63       0        1    Simple closed planar curve
   110       0       0       27    Line
   112       0       0        2    Parametric spline curve
```

124	0	0	12	Transformation matrix
126	0	0	6	Rational B-spline curve
212	0	0	129	General note
230	0	0	1	Sectioned area (Standard Crosshatching)
308	0	0	1	Subfigure definition
404	0	0	1	Drawing
406	16	0	1	Property - Drawing size
406	18	0	1	Property - Intercharacter spacing
408	0	0	8	Single subfigure instance
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	200

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 200

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
3	1	4	2	-	27	2	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	12	-	-	-	Undefined
-	-	-	-	-	-	6	-	Solid

<<<<< *PART OF LOG REMOVED HERE* >>>>>

*** Line Widths Used in Data ***

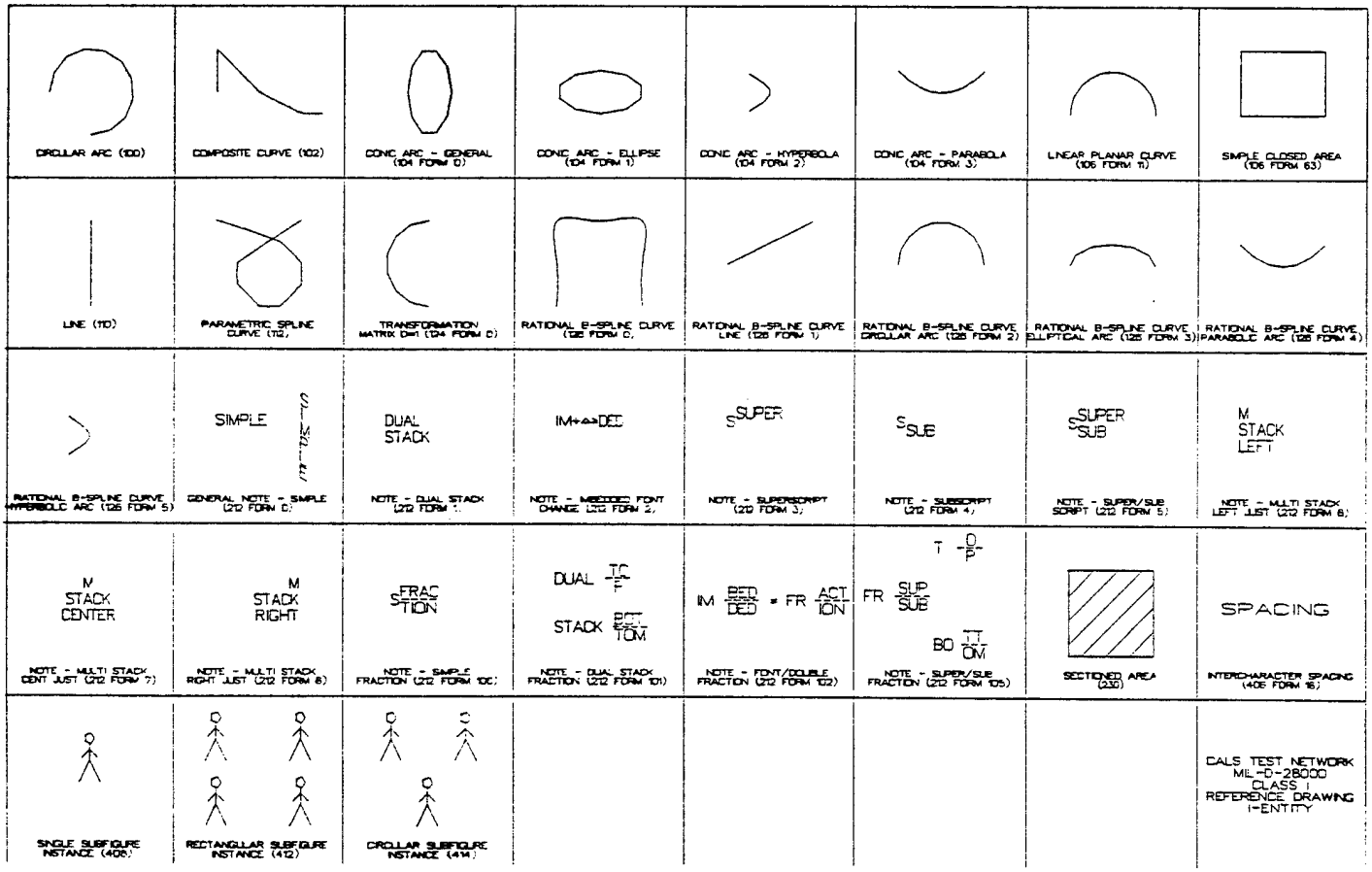
Weight	Count	Width
Defaulted	200	(0.0020)

```
 *** Colors Used in Data ***

  Defaulted       25
        Red      175

 ********************************
 ******  ENTITY ANALYSIS  ******
 ********************************

 *** Entity type: 100

 *** Entity type: 102

 *** Entity type: 104

WARNING 2265: Start point off conic by 2.666563E-03 at D     23.
WARNING 2265: Start point off conic by 1.456414E-03 at D     27.

 *** Entity type: 106

 *** Entity type: 110

  --    27 lines averaging 7.155336E+00 units --

 *** Entity type: 112

 *** Entity type: 124

12 transformation matrices, 4 non-zero translations.
NOTE    2341: 4 matrices contain translation information.

 *** Entity type: 126

 *** Entity type: 212

       129 text strings in data file.
       Average text aspect ratio in file is 0.9982937.
       Minimum text aspect ratio in file is 0.7978667.
       Maximum text aspect ratio in file is 1.4857143.

       FONTS USED IN FILE

       FONT   COUNT   NAME

          1     127   Default ASCII Style
       1002       2   Symbol Font 2
```

```
 *** Entity type: 230

 *** Entity type: 308

  Subfigure name at D     19: 'subfig0'.
    Number of included entities = 6.

 *** Entity type: 404

Drawing at D      5 contains 1 views.
Drawing at D      5 contains 0 annotation entities.

 *** Entity type: 406

 *** Entity type: 408

  Subfigure instance at D    363 references subfigure at D     19.
  Subfigure instance at D    373 references subfigure at D     19.
  Subfigure instance at D    377 references subfigure at D     19.
  Subfigure instance at D    381 references subfigure at D     19.
  Subfigure instance at D    385 references subfigure at D     19.
  Subfigure instance at D    389 references subfigure at D     19.
  Subfigure instance at D    393 references subfigure at D     19.
  Subfigure instance at D    397 references subfigure at D     19.

 *** Entity type: 410

  Scale of view at D      1 is 1.000000E+00.
Orthographic View entity at D      1 has  0 clipping planes specified.
   XMIN = Not Set       XMAX = Not Set
   YMIN = Not Set       YMAX = Not Set
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***
2015: 2 Mathematically incorrect definitions.
 *** Error Summary ***

     0 fatal errors
     0 severe errors
     0 errors
     2 warnings
     0 cautions
     0 nitpicks
     1 notes

 *** End of Analysis of /novell/9355/q206.igs ***
```

10.3.2 Output Cadkey v5.02

10.3.3 Output IGESView



10.4 File D002Q007

10.4.1 Parser/Verifier Log

```
          *** IGES DATA FILE ANALYSIS ***
          ***       MARCH 1992       ***
          ***   IGES Data Analysis   ***
          ***     (708) 449-3430     ***

 Input file is /novell/9355/q207.igs

 Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

 Today is June 3, 1993  8:17 AM

*** File and Product Name Information ***

   File name from sender     = 'lgtable.igs'
   File creation Date.Time   = '930524.103738'
   Model change Date.Time    = ''
   Author                    = 'FARRELL'
   Department                = 'Air Force CALS Test Network'
   Product name from sender  = 'lgtable.igs'
   Destination product name  = 'lgtable.igs'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID              = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version   = '1.0'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***

   Model scale            =  1.0000E+00
   Unit flag              =  1
```

```
   Units                    =  'IN'
   Line weights             =  25
   Maximum line thickness   =  1.000000E-01
   Minimum line thickness   =  4.000000E-03
   Granularity              =  1.000000E-03
   Maximum coordinate       =  9.391507E+00

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

 Blank status: Visible                      280
               Blanked                        0

 Independence: Independent                  267
               Physically Subordinate        11
               Logically Subordinate          2
               Totally Subordinate            0

 Entity use:   Geometry                     226
               Annotation                    54
               Definition                     0
               Other                          0
               Logical/Positional             0
               2D parametric                  0
               Not Specified                  0

 Hierarchy:    Structure DE applies           0
               Subordinate DE applies       280
               Hierarchy property applies     0
               Not Specified                  0

*** Entity Occurrence Counts ***

 Entity   Form   Level    Count    Type
 ------   ----   -----    -----    ----

   100       0       0       85    Circular arc
   102       0       0        2    Composite curve
   104       1       0        5    Conic arc - ellipse
   110       0       0      116    Line
   112       0       0       12    Parametric spline curve
   124       0       0        5    Transformation matrix
   212       0       0       47    General note
   230       0       0        5    Sectioned area (Standard Crosshatching)
   404       0       0        1    Drawing
   406      16       0        1    Property - Drawing size
```

```
   410       0       0       1     View - Orthographic parallel

*** Entity Count by Level ***

   Level  Count
       0    280

*** Labeling Information ***

   0% of the entities are labeled.

   Unlabeled     280

*** Line Fonts Used in Data ***

100  102  104  106  108  110  112  114

 -    -    -    -    -    -    -    -   Undefined 85    2    5    -    -   107   12
 Solid -    -    -    -    -     9    -    -   Dashed
 -    -    -    -    -    -    -    -   Phantom
 -    -    -    -    -    -    -    -   Center-line
 -    -    -    -    -    -    -    -   Dotted
 -    -    -    -    -    -    -    -   User defined

116  118  120  122  124  125  126  128

 -    -    -    -     5   -    -    -   Undefined

                    <<<<< PART OF LOG REMOVED HERE >>>>>

*** Line Widths Used in Data ***

    Weight       Count      Width

 Defaulted        73       (0.0040)
      4          207       (0.0160)

*** Colors Used in Data ***

 Defaulted       196
      Blue        22
      Cyan        62

*******************************
******  ENTITY ANALYSIS  ******
*******************************
```

```
 *** Entity type: 100

 *** Entity type: 102

 *** Entity type: 104

WARNING 2265: Start point off conic by 7.999625E-03 at D     73.
WARNING 2265: Start point off conic by 1.788987E-02 at D     81.
WARNING 2039: End point off conic by 1.581491E-03 at D      81.
WARNING 2265: Start point off conic by 1.594810E-02 at D    141.
WARNING 2265: Start point off conic by 3.114898E-02 at D    191.

 *** Entity type: 110

  --   116 lines averaging 5.326830E-01 units --

 *** Entity type: 112

 *** Entity type: 124

5 transformation matrices, 5 non-zero translations.
NOTE    2341: 5 matrices contain translation information.

 *** Entity type: 212

       47 text strings in data file.
       Average text aspect ratio in file is 0.7899129.
       Minimum text aspect ratio in file is 0.7580039.
       Maximum text aspect ratio in file is 1.0525425.

       FONTS USED IN FILE

       FONT   COUNT   NAME

          1      47   Default ASCII Style

 *** Entity type: 230

 *** Entity type: 404

Drawing at D      5 contains 1 views.
Drawing at D      5 contains 0 annotation entities.

 *** Entity type: 406

 *** Entity type: 410
```

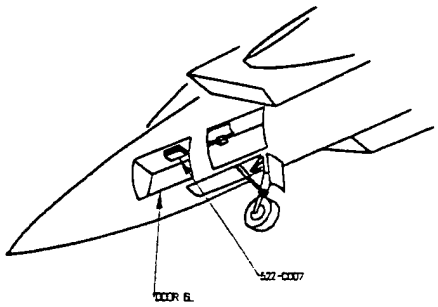
```
  Scale of view at D      1 is 1.000000E+00.
Orthographic View entity at D      1 has  0 clipping planes specified.
   XMIN = Not Set       XMAX = Not Set
   YMIN = Not Set       YMAX = Not Set
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

2015: 5 Mathematically incorrect definitions.

 *** Error Summary ***

     0 fatal errors
     0 severe errors
     0 errors
     5 warnings
     0 cautions
     0 nitpicks
     1 notes

 *** End of Analysis of /novell/9355/q207.igs ***
```

10.4.2 Output Cadkey v5.02

522-C007	ESSENTIAL CIRCUIT BREAKER PANEL NO. 1		(24-50-12)
REF DES	ZONE	NOMENCLATURE	BUS
41CBC033	L1	R MLG WDW PWR	28VDC ESS 28VDC
41CBC034	M1	L MLG WDW PWR	28VDC ESS 28VDC
42CBC005	N1	LDG GR POS IND	28VDC ESS 28VDC

CALS Test Network LGTABLE Reference Illustration

10.4.3 Output IGESView



522-0007	ESSENTIAL CIRCUIT BREAKER PANEL NO 1		(24-50-12)
REF DES	ZONE	NOMENCLATURE	BUS
4108[illegible]	L1	R MLG WOW PWR	28VDC ESS 28VDC
4108[illegible]	M1	L MLG WOW PWR	28VDC ESS 28VDC
4208[illegible]	N1	LDG GR POS IND	28VDC ESS 28VDC

11. Appendix C - Detailed SGML Analysis

11.1 Datalogics Parser

```
            SGML Document Type Definition Parser
                        Version 3.36
        Copyright (c) Datalogics 1988, 1989, 1990, 1991
                An SGML System Conforming to
              International Standard ISO 8879
              Standard Generalized Markup Language

Log file: '9355.LOG'
SDO File: 'ctndecl.sdo'
Namecase General is yes.
Namecase Entity is no.
Parsing DTD file: '9355.dtd'

DTD0095: Start tag for element 'DATABASE' cannot be omitted if the
         element had declared content (CDATA, RCDATA, EMPTY).
DTD0095: Start tag for element 'MEDIUM' cannot be omitted if the
         element had declared content (CDATA, RCDATA, EMPTY).
DTD0096: The generic ID SHORTTITLE has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID CONTASSURPG has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID REFDOC has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID CFGPGE has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID COVERINDEX has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID STALOC has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID TESTCODE has not been used in any content
         model, inclusion, or as a doctype element.
This DTD conforms to the ISO 8879 standard

DTO file '9355.DTO' created

closing statistics:
    Capacity points:                  72200
    Bytes of DTO file string space:   12765
    SGML descriptor blocks:           7138

Document Type Definition is compliant and parsed normally.
```

```
Program status code: 0.
```

11.2 Validator Parser Log

```
<!-- Entity has no name, system id or public id in formal file -->.
<!-- **Warning** in "9355-1.sgm", line 517:
   An EMPTY element must have a start tag and must not have an end tag.
   Therefore, it is inappropriate to specify an omissible start tag or an
   inomissible end tag in its declaration.
   The element is "DATABASE".
   <!ELEMENT database        - -       EMPTY      >
                                       ^^^^^

-->
<!-- **Warning** in "9355-1.sgm", line 599:
   An EMPTY element must have a start tag and must not have an end tag.
   Therefore, it is inappropriate to specify an omissible start tag or an
   inomissible end tag in its declaration.
   The element is "MEDIUM".
   <!ELEMENT medium          - -             EMPTY>
                                             ^^^^^

-->
<!-- **Warning**:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "NOTICE".
   ((((#PCDATA | ftnref | xref | indxflag | verbatim |
        ^^^^^^

-->
<!-- **Warning**:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "INTERNATLSTD".
   ((((#PCDATA | ftnref | xref | indxflag | verbatim |
        ^^^^^^

-->
<!-- **Warning**:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "HOWTOUSE".
   ((((#PCDATA | ftnref | xref | indxflag | verbatim |
        ^^^^^^

-->
<!-- **Warning** in "9355-1.sgm", line 1361:
   An element with mixed content should permit data characters ("#PCDATA")
```

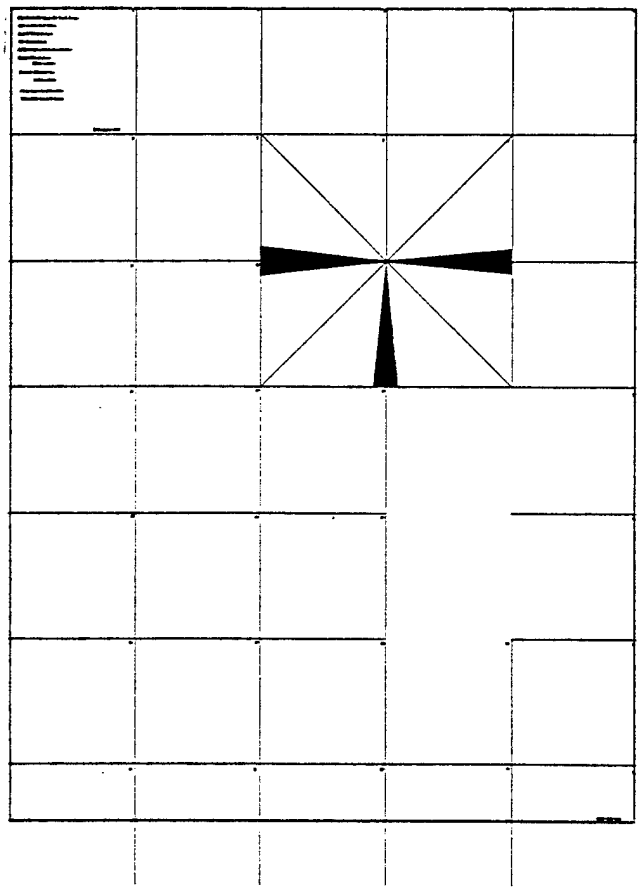
```
   everywhere.
   The element being declared is "CALLOUT".
   <!ELEMENT callout             - -       (#PCDATA | graphic)           >
                                                                 /\
-->
<!-- **Warning**:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "ENTRY".
   ((((#PCDATA | ftnref | xref | indxflag | verbatim |
        ^^^^^^
-->
<!-- **Warning**:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "FTNOTE".
   ((((#PCDATA | ftnref | xref | indxflag | verbatim |
        ^^^^^^
-->
<!-- **Warning** in "9355-1.sgm", line 1612:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "CFGPGE".

-->
<!-- **Warning** in "9355-1.sgm", line 1612:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "CONTASSURPG".

-->
<!-- **Warning** in "9355-1.sgm", line 1612:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "COVERINDEX".

-->
<!-- **Warning** in "9355-1.sgm", line 1612:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "ENTRYTBL".

-->
<!-- **Warning** in "9355-1.sgm", line 1612:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "REFDOC".
```

```
-->
<!-- **Warning** in "9355-1.sgm", line 1612:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "SHORTTITLE".

-->
<!-- **Warning** in "9355-1.sgm", line 1612:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "STALOC".

-->
<!-- **Warning** in "9355-1.sgm", line 1612:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "TESTCODE".

-->
<!-- 16 warnings reported. -->
```

12. Appendix D - Detailed Raster Analysis

12.1 File D003R001

12.1.1 Output IGESView



13. Appendix E - Detailed CGM Analysis

13.1 File D001C004

13.1.1 Parser Log

```
CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:09:46

Metafile Examined    : i:\9355\c104.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

======================== Trace Report ========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report =================

CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:09:49

Name of CGM under test: i:\9355\c104.cgm
Encoding              : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : "allreal.cgm"
METAFILE DESCRIPTION  : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"
```

Picture 1 starts at octet offset 202; string contains: "Picture 1"

Conformance Summary : This file conforms to the CGM specification.
This file meets the CALS CGM Profile (MIL-D-28003).

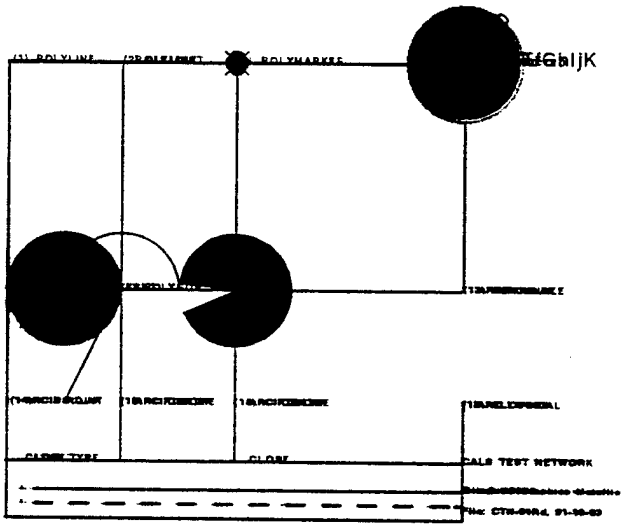
Summary of Testing Performed and Errors Found:

1 Pictures Tested
272 Elements Tested
3980 Octets Tested

```
==================================
|    No Errors Were Detected     |
==================================
```

========== End of Conformance Report ==========

13.1.2 Output Harvard Graphics



13.2 File D001C005

13.2.1 Parser Log

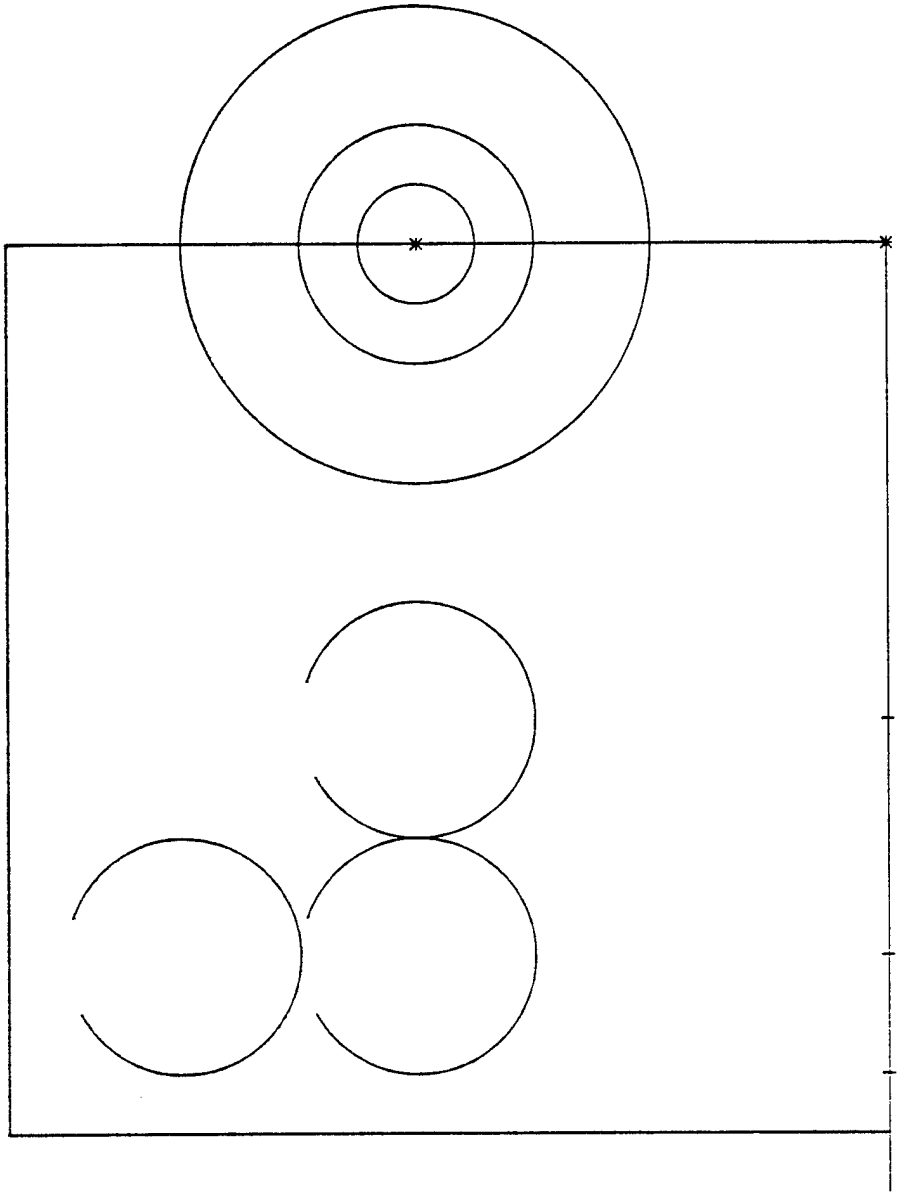
```
CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:10:12

Metafile Examined    : i:\9355\c105.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

======================== Trace Report ========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report =================

CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:10:14

Name of CGM under test: i:\9355\c105.cgm
Encoding              : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : "arcs.cgm"
METAFILE DESCRIPTION  : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 154; string contains: "Picture 1"

Conformance Summary   :  This file conforms to the CGM specification.
```

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

```
          1 Pictures Tested
         62 Elements Tested
        942 Octets Tested

            ==================================
            |    No Errors Were Detected     |
            ==================================

================ End of Conformance Report ==================
```

13.2.2 Output Harvard Graphics



13.3 File D001C006

13.3.1 Parser Log

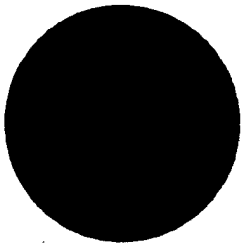
```
CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:10:23

Metafile Examined    : i:\9355\c106.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

======================== Trace Report ========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report =================

CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:10:24

Name of CGM under test: i:\9355\c106.cgm
Encoding              : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : "fills.cgm"
METAFILE DESCRIPTION  : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 154; string contains: "Picture 1"

Conformance Summary  :  This file conforms to the CGM specification.
```

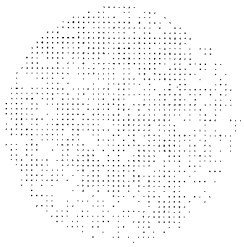
This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

```
          1 Pictures Tested
         56 Elements Tested
        856 Octets Tested

              ================================
              |    No Errors Were Detected     |
              ================================

================ End of Conformance Report ==================
```

13.3.2 Output Harvard Graphics





13.4 File D001C007

13.4.1 Parser Log

```
CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:10:34

Metafile Examined    : i:\9355\c107.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

======================== Trace Report ========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report =================

CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:10:36

Name of CGM under test: i:\9355\c107.cgm
Encoding              : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : "lines.cgm"
METAFILE DESCRIPTION  : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 130; string contains: "Picture 1"

Private values encountered in CGM
```

Conformance Summary : This file conforms to the CGM specification.
This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested
71 Elements Tested
664 Octets Tested

| No Errors Were Detected |

========== End of Conformance Report ==========

13.4.2 Output Harvard Graphics

13.5 File D001C008

13.5.1 Parser Log

```
CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:10:47

Metafile Examined    : i:\9355\c108.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

======================== Trace Report ========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report =================

CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 06/03/93     Time:  08:10:49

Name of CGM under test: i:\9355\c108.cgm
Encoding              : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : "text.cgm"
METAFILE DESCRIPTION  : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 178; string contains: "Picture 1"

Conformance Summary   :  This file conforms to the CGM specification.
```

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested
67 Elements Tested
902 Octets Tested

| No Errors Were Detected |

========== End of Conformance Report ==========

13.5.2 Output Harvard Graphics

TEXT 12

BOLD .15

SPACING 2

EXPANSION FACTOR 1.5

TEXT COLOR RED